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**Suzuki**

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(54) **FLOW RATE SENSOR IMPLEMENTING A PLURALITY OF INNER TUBES LOCATED WITHIN A SENSOR TUBE**

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(75) **Inventor:** Isao Suzuki, Tokyo (JP)

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(73) **Assignee:** MKS Japan, Inc., Tokyo (JP)

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

*Primary Examiner*—Harshad Patel

(74) *Attorney, Agent, or Firm*—Wenderoth, Lind, and Ponack, L.L.P.

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(58) **Field of Search** ..... 73/204.22, 204.27,  
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(57) **ABSTRACT**

There is provided a flow rate sensor comprising: a pair of heating resistors operable to heat a sensor tube; a temperature sensor operable to control respective temperatures of the heating resistors; and a case operable to hold the heating resistors and the temperature sensor. The flow rate sensor is adapted to detect a flow rate of a fluid flowing in the sensor tube based on variations of voltages applied to the heating resistors, wherein the variations occur according to the flow rate of the fluid. The flow rate sensor further comprises a voltage applying device operable to arbitrarily set an increase in temperature of each of the heating resistors. The sensor tube has opposite ends thereof thermally connected to the case. The temperature sensor is positioned to be equidistant from the opposite ends of the sensor.

**8 Claims, 11 Drawing Sheets**

